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(71) Applicant(s)  
Simon Francis Klippel  
Percy Lodge, Scotton, KNARESBOROUGH,  
North Yorkshire, HG5 9HY, United Kingdom

(72) Inventor(s)  
Simon Francis Klippel

(74) Agent and/or Address for Service  
Urquhart-Dykes & Lord  
8th Floor, Tower House, Merrion Way, LEEDS,  
LS2 8PA, United Kingdom

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U1S S1125 S1378

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GB 1074558 A GB 0877321 A US 5180079 A

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UK CL (Edition P ) B8D DA DFB DFC DFX DSA DSC2  
DSR1 DSR2  
INT CL<sup>6</sup> B65D 23/12 81/32  
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(54) Abstract Title  
**Dual dispenser.**

(57) A dual dispenser comprises a first housing (11) defining a first cavity (15) which stores the first material and a second housing (12) defining a second cavity (19) and storing a second material. The second cavity has a first aperture through which the second material is dispensed in use. There is also a conduit in communication with the first cavity (15) which passes through the second cavity (19) and has a second aperture (14) exterior to the second housing through which the first material is dispensed in use. The first housing (11) may be a deformable tube for containing toothpaste and the second housing (12) may take the form of a cap, the second cavity (19) having a substantially annular form. The cap may contain dental floss wrapped around a central formation (17) for dispensing through the first aperture.

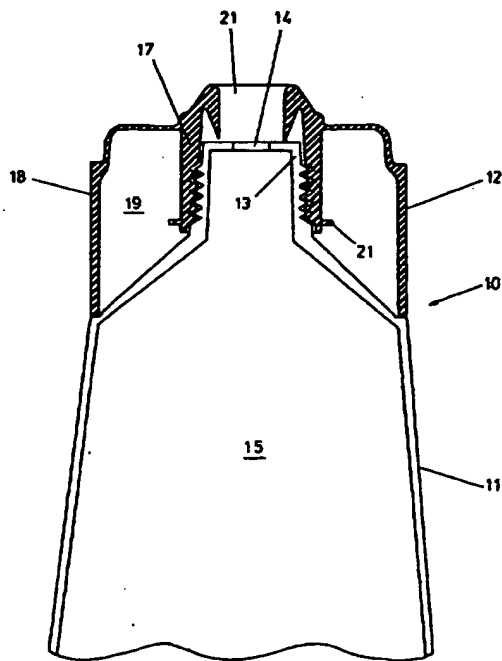


FIG. 2

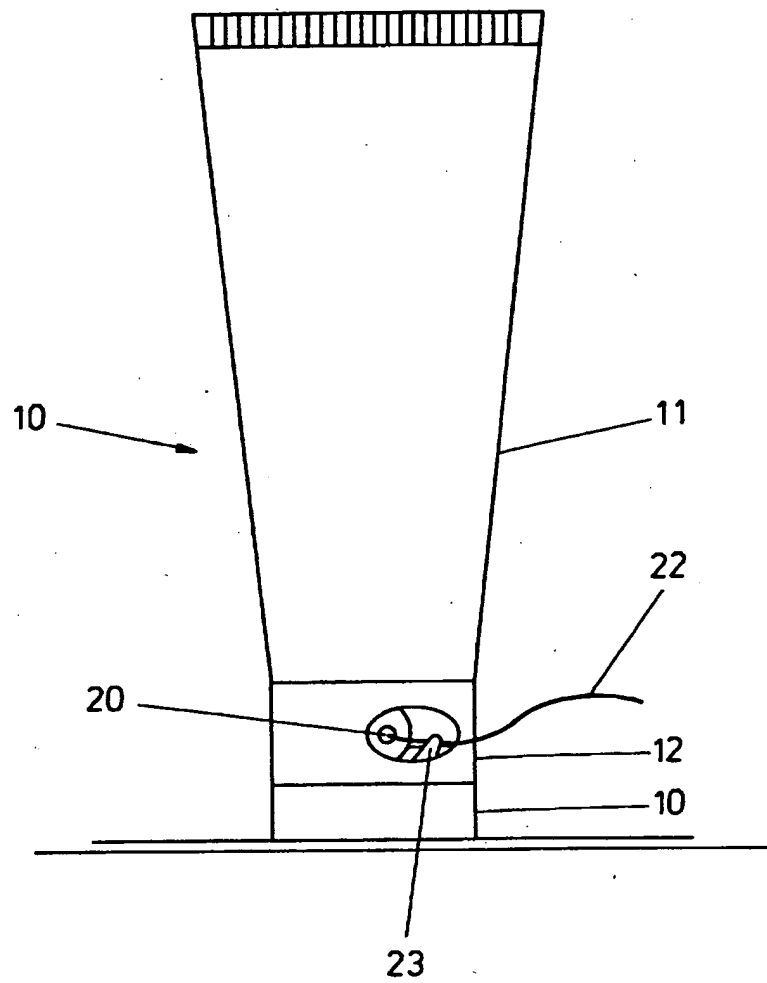


FIG. 1

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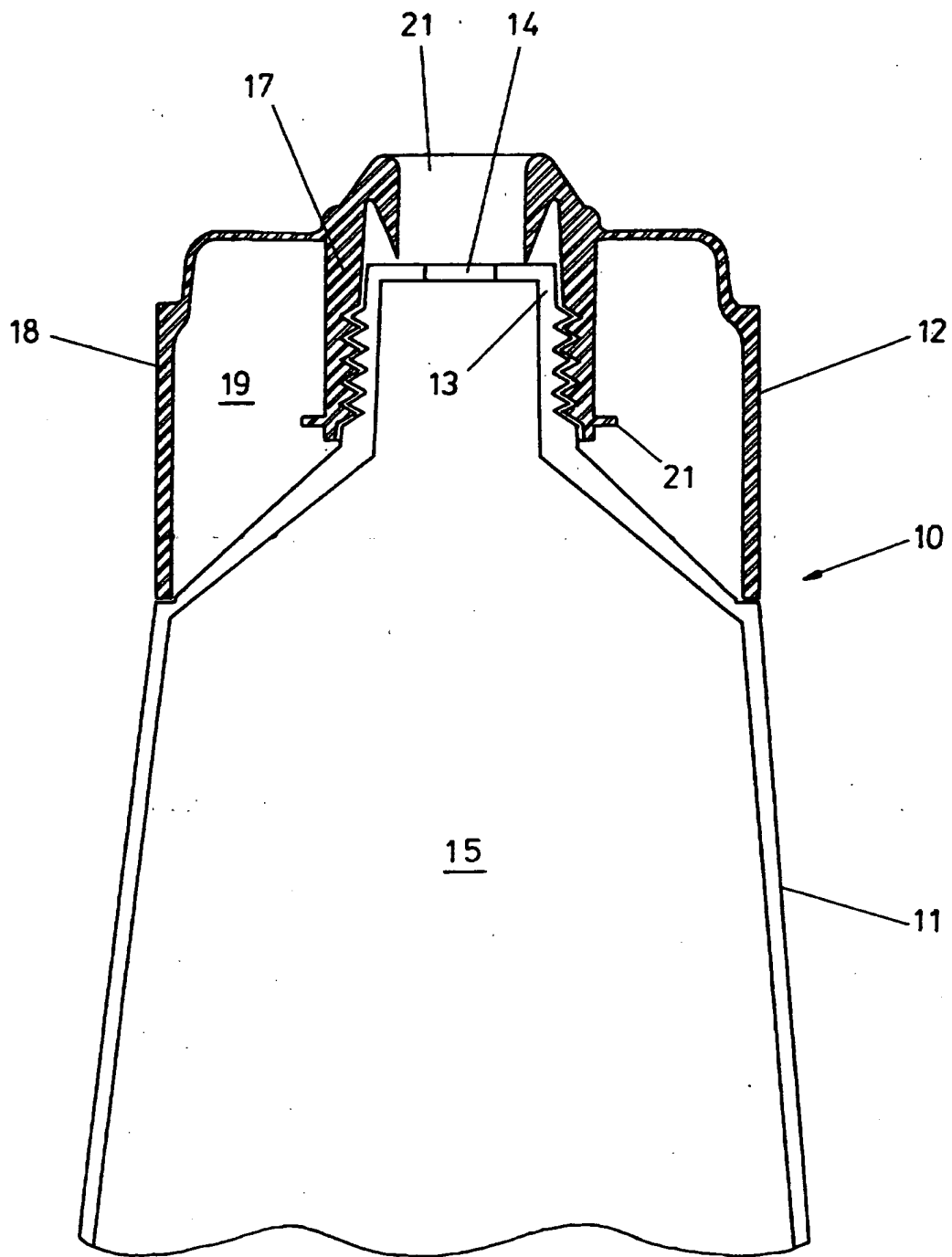


FIG. 2

FIG. 3a

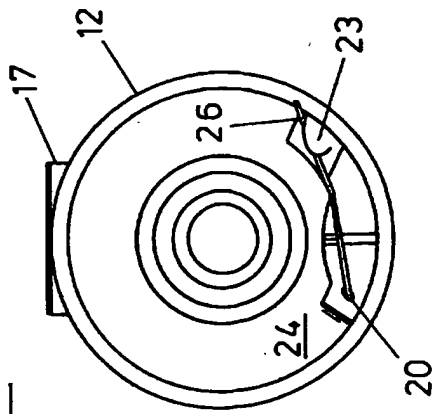


FIG. 4a

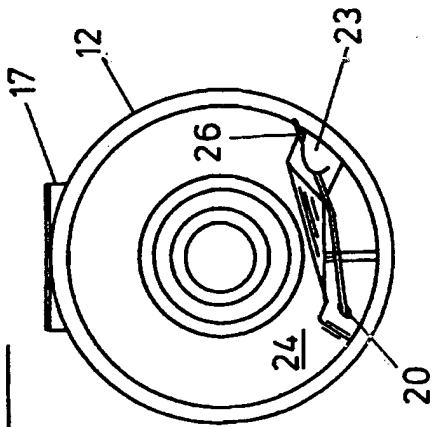
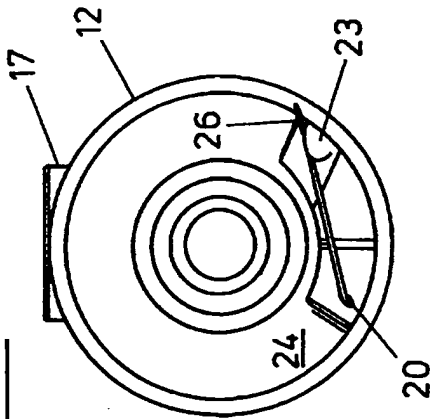


FIG. 5a



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FIG. 3b

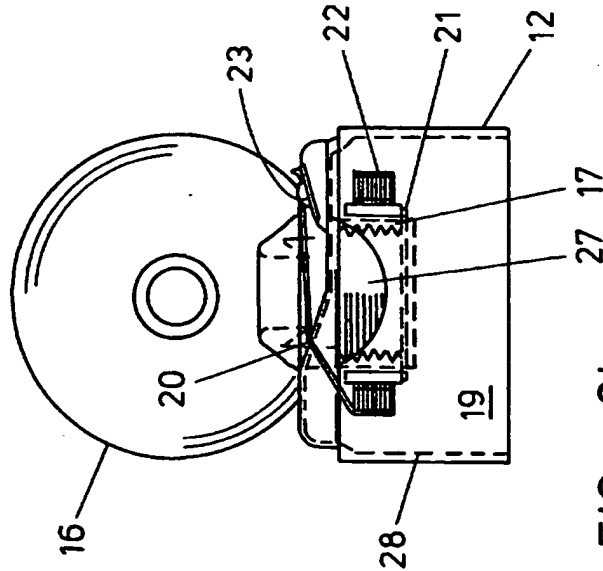


FIG. 4b

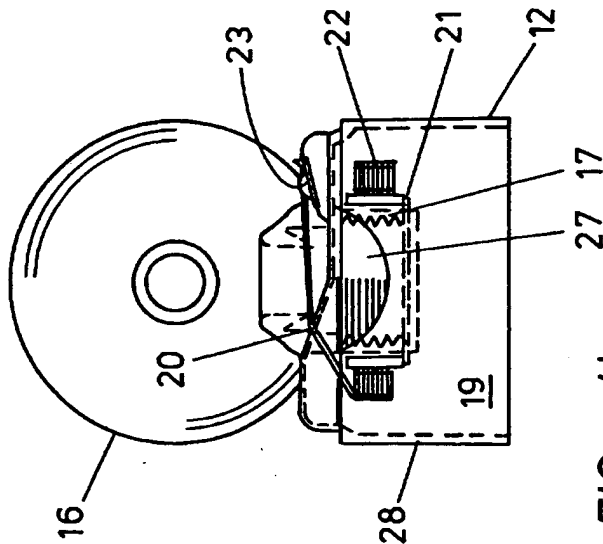
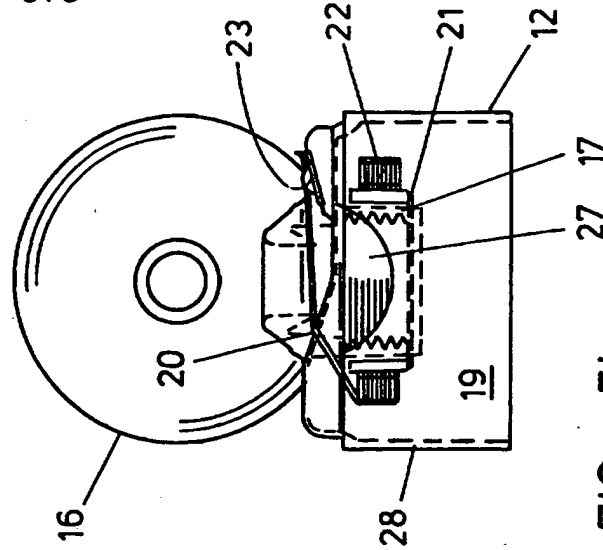


FIG. 5b



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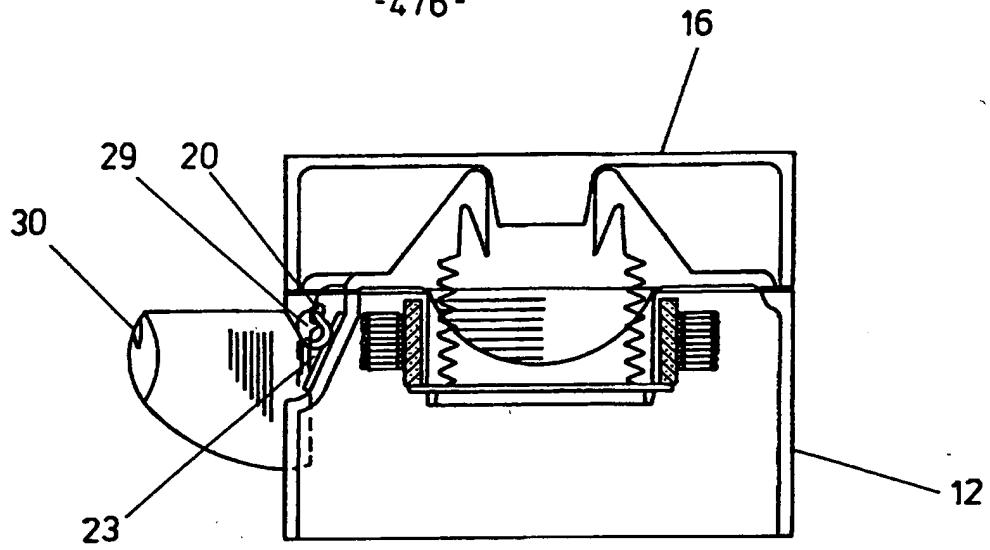


FIG. 6a

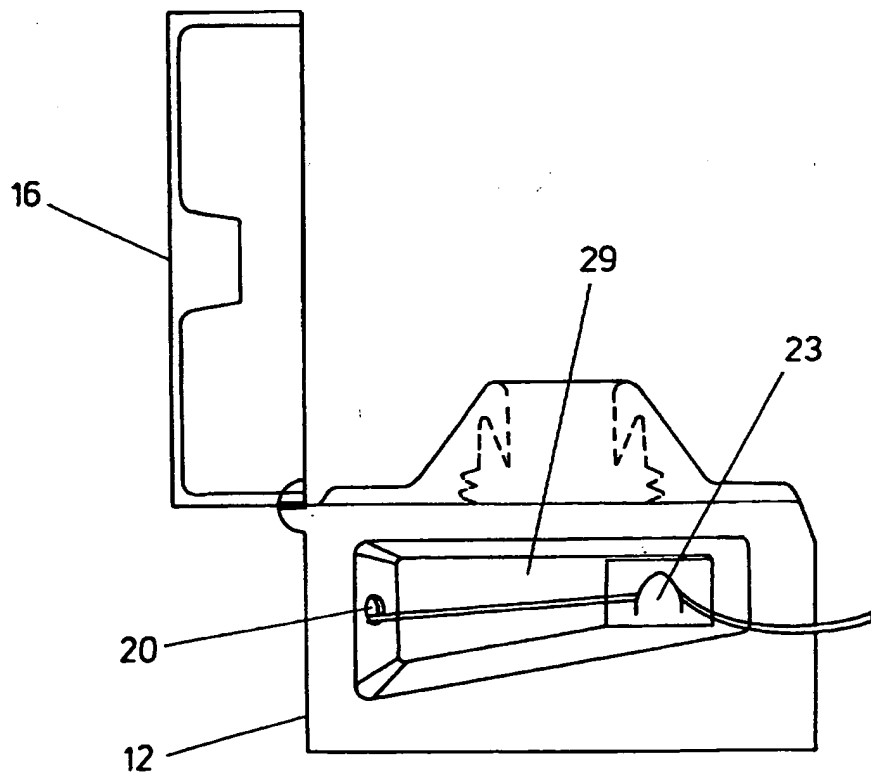
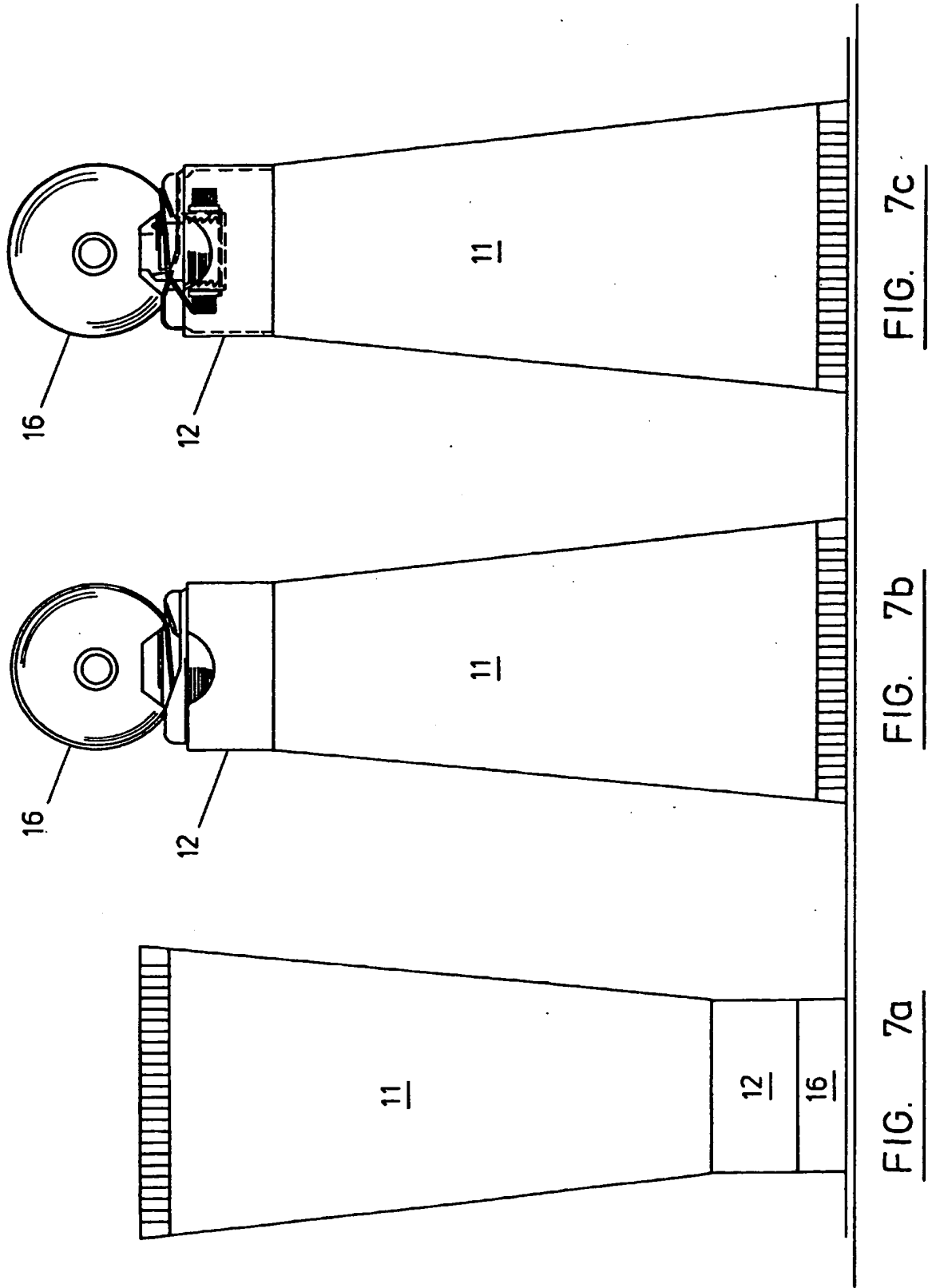


FIG. 6b



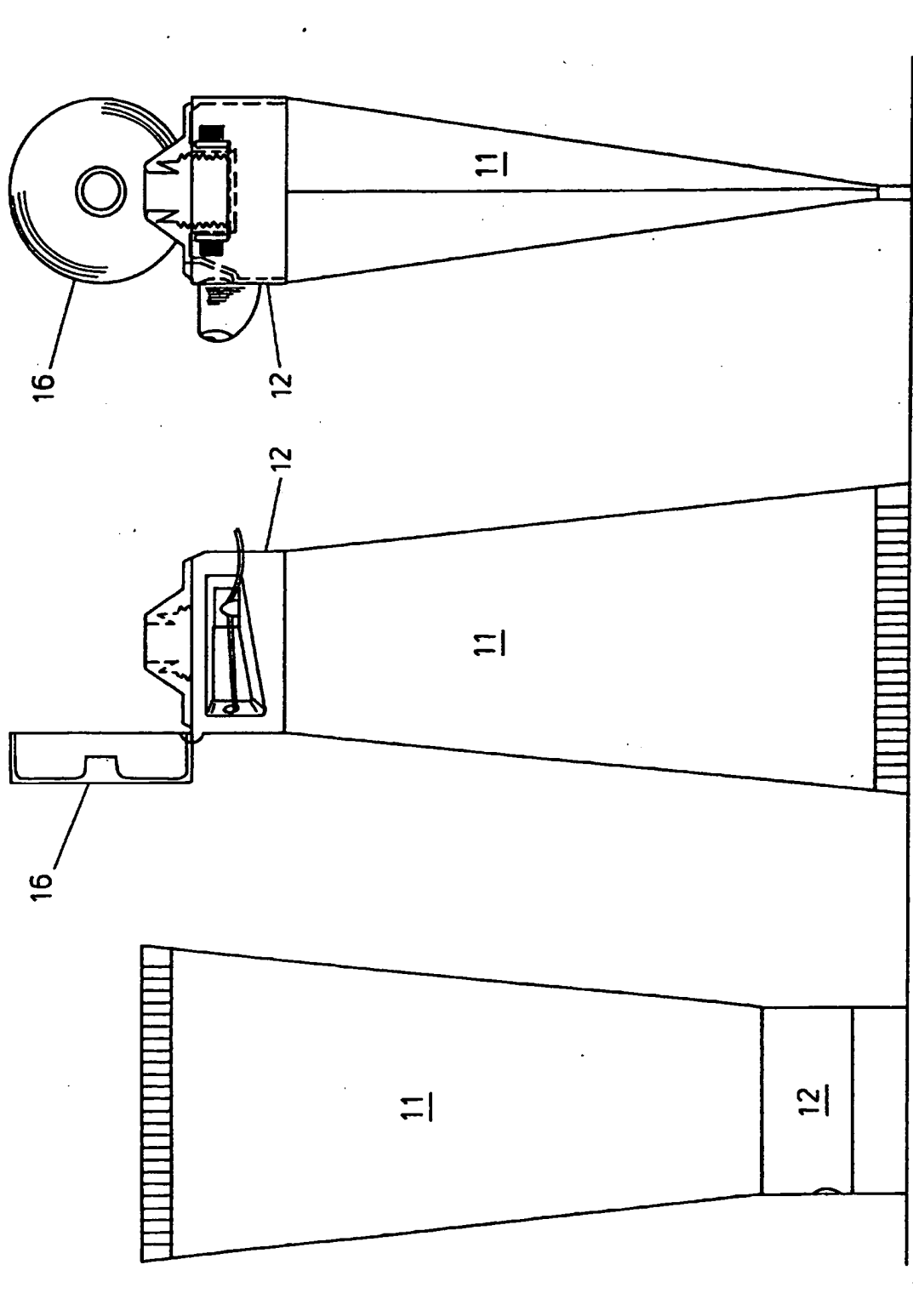


FIG. 8c

FIG. 8b

FIG. 8a

## Dual Dispenser

The present invention relates to an article for storing and dispensing two different materials and in particular, but not exclusively, to an article for storing and dispensing toothpaste and dental floss.

Toothpaste and dental floss are two different oral hygiene products. Typically they are provided separately in their own containers. Hence it is up to the consumer to remember to purchase the two separate items when either of them runs out. As they are provided in separate containers, there is also the possibility of the user losing in daily use or forgetting to pack when travelling one or the other.

According to the present invention there is provided a dual dispenser for dispensing a first material and a second material in which the dual dispenser comprises:

- a first housing defining a first cavity storing the first material;

- a second housing defining a second cavity storing the second material and having a first aperture through which the second material is dispensed in use; and

- a conduit in communication with the first cavity and passing through the second cavity and having a second aperture exterior to the second housing through which the first material is dispensed in use.

The dispenser stores and dispenses two separate materials and so is a dual dispenser. The two materials are stored in two separate cavities defined by two housings. The second material is dispensed from the second housing via a first aperture in the second housing. The first material is dispensed from the first housing via a conduit which passes through the second housing and from a second aperture exterior to the second housing. The provision of a conduit passing through the second housing and with a dispensing aperture external to the second



housing allows the dual dispenser to be unitary: i.e. either material may be dispensed from the dispenser with the dispenser retaining the form of a single article.

This unitary form of the dispenser leads to a number of advantages. It is not possible to misplace or forget either one of the materials stored in the dispenser. It is not necessary to separate a part of the dispenser from the remainder in order to dispense either material and so the possibility of losing that part of the dispenser is removed. As the two separate materials are provided in a single container there is a reduced amount of packaging required. Further, the provision of the two separate materials in a single container reduces the amount of container material required thereby reducing materials wastage when the containers are disposed of. Owing to the integrated form of the dispenser, i.e. dispensing the first material via the cavity storing the second material, a highly efficient use of the available storage space is achieved thereby minimising the volume of the dispenser and reducing its volume compared to that of two conventional, separate dispensers storing the same total amount of material. Further, as both materials are provided together, the consumer does not need to remember to purchase two separate items. This also helps to promote use of the other material, which may not normally be purchased or remembered, thereby providing the consumer with the advantages gained by regular use of the other material.

The first housing and second housing may be permanently connected. The dispenser may be a single body having formations which define two separate housings; e.g. the dispenser may be manufactured as a single body. Alternatively the dispenser may comprise two separate housings which are joined together so that in use the dispenser has the form of a single unitary body.

The conduit may be positioned in the second cavity so that the second material is stored around the conduit. Locating the position of the conduit through the second cavity so that the second material may be stored entirely around the conduit helps to maximise the available storage space in the second cavity. In the case of the second material being in the form of a filament, e.g. a length of dental floss, then the second material can be wound around the conduit so that the conduit acts like a spool which eases dispensing the material by helping to prevent the material becoming tangled. Alternatively, in the case of the second material being in the form of a filament, the second material may be wound around a reel which is mounted on the conduit so that the conduit acts as an axle upon which the reel rotates as the second material is dispensed. The conduit may have formations on an outer surface to maintain the location of the second material around the conduit.

The second cavity may be substantially annular. The shape of the second cavity in the second housing may be in the form of an annulus; i.e. a ring of space around a central formation. The provision of an annular cavity provides a space suitable for storing and dispensing the second material. The central formation co-operating with the housing to form the annular space may have the conduit passing through it. In this way the conduit may serve the dual purpose of providing communication between the first cavity and the exterior and also providing a spool around which a filamentary second material may be stored and from around which it may be easily dispensed.

The dispenser may have a cap which in use engages and disengages the second aperture to seal and unseal the first cavity. A releasable cap may be provided to seal the second aperture to prevent undesired ingress and egress of material into or from the first cavity while still allowing the first material to be dispensed from the first cavity when selectively required. The cap may be permanently attached to the second

housing. In this way the cap is retained with the dispenser and so can not individually be misplaced.

The dispenser may store and dispense toothpaste from the first cavity and store and dispense dental floss from the second cavity. Preferably, the dental floss is stored around the conduit passing through the second cavity and is dispensed from the second cavity via the first aperture. Preferably, the toothpaste is stored in the first cavity and is dispensed via the conduit from the second aperture exterior to the second housing.

The dispenser may have a cutting means which in use cuts a length of dental floss from the dental floss and retains a free end of the dental floss. The cutting means allows a user of the dispenser to pull a length of dental floss from the dispenser and detach it from the remaining stored dental floss. As the cutting means retains the free end of the floss exterior to the second cavity, the free end of the floss is held in position and so is easy to locate and will tend to prevent dental floss accidentally being dispensed from the dispenser as may happen with an un-retained free end.

The first housing may be deformable to cause the first material to be dispensed out of the first cavity from the second aperture. The first material may be dispensed by deforming the first housing so that the first material is squeezed out of the first cavity and dispensed from the second aperture via the conduit.

The invention will be better understood from the following detailed description of one specific illustrative embodiment with reference to the accompanying drawings, in which:

Figure 1 shows a side view of a dual dispenser;

Figure 2 shows an enlarged cross section of a top part of the dispenser;

Figures 3a and 3b respectively show plan views and side views of a second housing of a dispenser with a cap and floss;

Figures 4a and 4b respectively show plan and side views of a first variation of a second housing of a dispenser;

Figures 5a and 5b respectively show plan and side views of a second variation of a second housing of a dispenser;

Figures 6a and 6b respectively show two side views of a third variation of a second housing of a dispenser;

Figures 7a 7b and 7c show different views of a first version of a dual dispenser; and

Figures 8a 8b and 8c show different views of a second version of a dual dispenser.

Like articles in the different Figures share common reference numerals.

With reference to Figures 1 & 2 a dual dispenser, designated generally by reference numeral 10, has a first housing 11 and a second housing 12. The first housing is in the form of a deformable tube, which is sealed at one end and has a threaded nozzle 13 at the other end. A top face of the nozzle has a hole 14 in it. The first housing defines a cavity 15 in which a first material (not shown) in the form of toothpaste is stored. Upon deforming the tube, toothpaste is expelled from the first cavity via the hole 14. The first housing may be made of a deformable plastics or other suitable deformable, resilient material.

The second housing 12 is circular in cross section and has a cap 16 attached to it. The cap may either be permanently attached to the second housing or removable from the second housing. The second housing has a central formation 17 which together with the outer wall 18 of the second housing defines a substantially annular second cavity 19 in the second housing. The central formation 17 provides a conduit passing through the second cavity and in communication with the first cavity. The

second housing has a first aperture 20 and a second aperture 21 which is exterior to the second housing.

An interior wall of the formation has a connecting device in the form of a screw thread. The first housing and the second housing are attached by engaging the threaded nozzle and thread of the formation and screwing the two housings together to form a single unitary dispenser.

In use a second material in the form of dental floss is stored in the second cavity by wrapping around the conduit. A locating formation 21 is provided on an outer wall of the formation 17. The locating formation acts to correctly locate the dental floss wrapped around the formation by helping to prevent floss slipping off the formation. Floss 22 wraps around the formation as is dispensed from the second cavity 19 via the first aperture 20. The dispenser has a cutting means 23 attached to the second housing. In use the cutting means cuts a length of floss from the dental floss and retains a free end of the floss.

Use of the dual dispenser will now be described. The dual dispenser 10 is a unitary dispenser as it is in the form of a single article which can dispense either of the materials stored in it while maintaining the form of a single article. Toothpaste can be dispensed from the first housing. Firstly the cap is lifted so as to disengage from the second aperture and unseal the first housing. The cap is permanently attached to the second housing and so the dispenser retains its unitary form. The first housing is then squeezed causing toothpaste to be expelled from the first cavity, pass through the conduit provided by nozzle 13 and formation 17 and be dispensed from the second aperture 21. The cap may then be folded back down to engage the second aperture and seal the first cavity.

Floss may be dispensed from the dispenser with either the cap engaging, or disengaged from, the second aperture and without

having to disassemble the dispenser in any way. The free end of the floss 22 is extracted from the cutting means 23. The floss is pulled and unravels from around the formation around which it is stored, dispensing a length of floss from the first aperture 20. The floss is then brought into contact with a blade of the cutting means and a required length of floss is cut off with the newly created free end of floss being retained in the cutting means for the next time of use.

As both materials can be dispensed from a single article it is only possible to misplace the entire article. Hence accidentally misplacing the single container usually provided for each material is obviated. Further, both materials are provided together so there is reduced wastage of packaging and also of container materials. Also the consumer does not need to remember to purchase both items and so oral hygiene is promoted by the automatic provision of dental floss.

Figures 3a, 3b, 4a, 4b, 5a and 5b show plan and side views respectively of second housings 12 with slight variations. The plan views have the cap 16 omitted for clarity and the side views have some of the internal features of the housing shown in ghost lines to aid understanding. The formation 17 has a reel mounted on it and supported by locating formation 21. Floss 22 is wrapped around the reel which pivots about the formation as floss is dispensed. Alternatively, floss may be wrapped directly around the formation so that the formation acts as a spool and the locating formation then acts to correctly locate the floss on the formation. The floss is stored in the annular cavity 19 around the formation which provides part of the conduit for dispensing the first material. The floss exits the cavity via a first aperture 20 provided in an upper surface 24 of the housing. The second housing may have a guiding formation 25 which guides the path of the floss from the second aperture 20 to the cutting means 23. The cutting means 23 may be in the form of a blade extending from

a support which acts to both cut the floss and retain a free end 26 of the floss.

The cap 16 may be connected to the second housing by a 17 hinge. The cap may be an integral part of the second housing, e.g. preformed as part of a single moulding, or subsequently attached to the second housing. The cap may be lifted and folded back down to unseal and seal the first cavity. The cap also serves to protect the exposed free end of the floss from dirt. The side wall 28 of the second housing may be provided with an indentation 27 to help the user disengage the cap when folded down.

Figures 6a and 6b show two side views rotated through 90° with respect to each other of a further variation of the second housing with the cap down and up. In this variation, the first aperture 20 and cutting means 23 are provided in a recess 29 in the side wall 28. The recess may be provided with a snap lock cover 30 to keep dirt away from the exposed free end of the floss.

Figures 7 and 8 show different views of the unitary dual dispenser with the cap 16 raised and either one of the second housings 12 of Figures 3-5 or the second housing of Figures 6a and 6b.

CLAIMS:

1. A dual dispenser for dispensing a first material and a second material in which the dual dispenser comprises:  
a first housing defining a first cavity storing the first material;

a second housing defining a second cavity storing the second material and having a first aperture through which the second material is dispensed in use; and

a conduit in communication with the first cavity and passing through the second cavity and having a second aperture exterior to the second housing through which the first material is dispensed in use.

2. A dispenser as claimed in claim 1, in which the first housing and second housing are permanently connected.

3. A dispenser as claimed in claim 1 or claim 2, in which the conduit is positioned in the second cavity so that the second material is stored by wrapping around the conduit.

4. A dispenser as claimed in any preceding claim, in which the second cavity is substantially annular.

5. A dispenser as claimed in any preceding claim, in which the dispenser has a cap which in use engages and disengages the second aperture to seal and unseal the first cavity.

6. A dispenser as claimed in claim 5, in which the cap is permanently attached to the second housing.

7. A dispenser as claimed in any preceding claim in which the first material is toothpaste and the second material is dental floss.



8. A dispenser as claimed in claim 6, in which the dispenser has a cutting means which in use cuts a length of dental floss from the dental floss and retains a free end of the dental floss.

9. A dispenser as claimed in any preceding claim, in which the first housing is deformable to cause the first material to be dispensed out of the first cavity from the second aperture.

10. A dispenser substantially as hereinbefore described with reference to the accompanying Figures.



Application No: GB 9800801.4  
Claims searched: 1 to 10

Examiner: Mike Henderson  
Date of search: 3 April 1998

**Patents Act 1977**  
**Search Report under Section 17**

**Databases searched:**

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK CI (Ed.P): B8D (DA DFB DFC DFX DSA DSC2 DSR1 DSR2)

Int CI (Ed.6): B65D 23/12 81/32

Other: ONLINE:WPI

**Documents considered to be relevant:**

Category	Identity of document and relevant passage	Relevant to claims
X	GB 2264921A (BOURBON COMMUNICATION) (Whole disclosure relevant)	1,2,4 & 5
X	GB 2134873A (BOULD et al) (Whole disclosure relevant)	1 & 2 to 6
X	GB 1360729 (DIWO) (Whole disclosure relevant)	1 & 2 to 6
X	GB 1074558 (S p A FERRANIA) (Whole disclosure relevant)	1 & 3 to 5
X	GB 877321 (THE GILLETTE CO) (Whole disclosure relevant)	1 to 6 & 9
X	US 5180079 (JENG) (Whole disclosure relevant)	1 & 3 to 5

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.